

Response to Comments on Draft National Pollutant Discharge Elimination System (NPDES) Permit No. MA0029297 – P.J. Keating Company

Introduction:

In accordance with the provisions of 40 C.F.R. §124.17, this document presents EPA's responses to comments received on the Draft NPDES Permit (MA0029297). The responses to comments explain and support the EPA determinations that form the basis of the Final Permit. The P.J. Keating Company Draft Permit public comment period began June 21, 2007 and ended July 20, 2007. Comments were received from Massachusetts Riverways Program (Riverways) on the draft permit. Additionally, an inquiry from Rhode Island Department of Environmental Management (RIDEM), received during the comment period, and comments received after the comment period from Massachusetts Coastal Zone Management (CZM) shall be included in this response to comments for documentation purposes.

The Final Permit is almost identical to the Draft Permit that was available for public comment. Although EPA's knowledge of the facility has benefited from the various comments and additional information submitted, the information and arguments presented did not raise any substantial new questions concerning the permit. EPA did, however, make certain changes and clarifications in response to comments. The changes are listed below.

Changes to Permit:

1. The maximum daily effluent limitation of 100 ug/L for BTEX has been removed and replaced with a monitoring only requirement to report the maximum daily concentration of BTEX.
2. A requirement to monitor for total nitrogen (TN), at a frequency of 2/month, has been added to the permit.

Comments from Riverways:

Comment 1: Turbidity

This is a relatively newly permitted discharge with a limited data base of effluent characteristics and compliance. Despite the brevity of the available data it does appear there are some effluent water quality trends worth discussing. Specifically, the Fact Sheet indicates some compliance issues for certain parameters with existing limitations or reporting requirements.

The most notable problem area is the ability of the facility to meet its turbidity limitation. With twelve reported exceedances, it appears turbidity may be a chronic problem for this plant.

1. We would advocate for an increase in the frequency of monitoring as this will more fully document the duration and extent of the turbidity problem.

2. If more frequent monitoring is instituted and the monitoring shows the turbidity exceedances continuing at their current rate, we would hope measures to address the problem would be explored and implemented.

Response to Comment 1:

EPA agrees that turbidity may be a chronic problem for P.J. Keating. However, EPA believes that the installation of a new centrifuge-type system for removing silt from the process water (see Response to Comment 7) and development of a BMP plan and schedule to be completed by December 2007 (prompted by a 12/8/05 MassDEP notice of noncompliance) should help to address the issue of turbidity in the discharge from the facility. In the event that monitoring results reveal that turbidity is an ongoing problem, EPA may require development and implementation of BMPs and/or additional treatment in the future to reduce the amount of turbidity in the discharge from the facility.

Comment 2: TSS

Related to the turbidity issue is the ability of the facility to meet its TSS limits. While the number of TSS exceedances is smaller than turbidity excursions, the number should be considered in light of the short amount of time this discharge has been monitored. With five out of the sixteen minimum TSS shown on the DMR summary, (Fact Sheet appendix B) representing better than a 30% failure rate; it appears TSS compliance may be a problem.

3. As with turbidity, more frequent monitoring would be helpful in understanding the magnitude of the problem.
4. We would also offer for consideration, the possibility that TSS loading estimates be reported. Since the receiving water affords little if any dilution, especially during the summer season when the facility is operating at its most active production rate, a great deal of TSS loading into the receiving water and into the Acushnet River would prove detrimental to aquatic life. Increased sedimentation would result in embeddedness and loss of spawning and feeding habitat. Suspended materials can abrade gills and impair function in filter feeders.

Response to Comment 2:

EPA agrees that consistently meeting TSS limits may also be a problem for P.J. Keating. However, EPA believes that the installation of a new centrifuge-type system for removing silt from the process water (see Response to Comment 7) and development of a BMP plan and schedule to be completed by December 2007 (prompted by a 12/8/05 MassDEP notice of noncompliance) should help to address the issue of TSS in the discharge from the facility. In the event that monitoring results reveal that TSS is an ongoing problem, EPA may require development and implementation of BMPs and/or additional treatment in the future to reduce the amount of TSS in the discharge from the facility.

In response to the comment concerning TSS loading estimates, the data obtained from the twice per month TSS monitoring requirement and the weekly flow monitoring requirement should be sufficient information to calculate the actual loading to the receiving water (see Response to Comment 4).

Comment 3: Ammonia Nitrogen

The Fact Sheet also noted there was one excessively high ammonia concentration found in the effluent. Considering the dilution ratio is 1:1 for this discharge, an ammonia concentration above 400 is a serious water quality threat to the receiving water. This one reading, orders of magnitude higher than other readings, may be an anomaly, lab or sampling error, the result of a spill or some other reason but it appears the actual cause is not known. With the infrequency of monitoring it is hard to ascertain if this one reading was truly an aberration.

5. A possible partial solution to instances such as this extremely high ammonia concentration, is to require continued testing until such time as the concentration returns to an acceptable range and the source of the problem is determined. This could be the case for any water pollutant monitored by this facility.
6. Given the low dilution ratio, we would advocate for a conservation threshold to trigger more frequent testing and perhaps monitoring to occur hourly.

Response to Comment 3:

In the case of ammonia nitrogen, where there has only been one elevated data point, 2/month monitoring should allow sufficient data collection to determine the necessity, or not, for more stringent requirements in the future. At this time, EPA does not believe that the one occurrence of elevated ammonia nitrogen warrants implementation of a conservation threshold to trigger testing on an hourly schedule. In the event that high levels of ammonia nitrogen are detected in the future, EPA may require a conservation threshold to trigger testing on an hourly schedule. EPA notes that the Fact Sheet encourages the permittee to implement all feasible source reduction alternatives in order to minimize nitrogen discharges (including ammonia nitrogen), in anticipation of a nitrogen TMDL in the future. In response to concern regarding nitrogen discharges, EPA has added a requirement to monitor for total nitrogen (TN) in the final permit.

Comment 4: Seasonality

One final observation regarding the permit conditions for this facility. The Fact Sheet explained the schedule of the plant varied seasonally with a majority of the active quarrying and production occurring in the warmer months. The discharge volume from the plant is also highly variable.

7. It seems prudent to craft a permit that better captures the operation's seasonality. This would require more frequent testing during the summer months for all parameters and possibly more frequent monitoring based on

the amount of discharge, (this would be especially helpful as it would allow more accurate estimates of the loadings entering the receiving water).

Response to Comment 4:

The Final Permit, in accordance with the Draft Permit, requires a monitoring frequency of 1/week for flow. The weekly data obtained from these monitoring requirements throughout the year, along with the 2/month monitoring requirements for the parameters required by the permit, is expected to be sufficient information to calculate loadings on the receiving water during all seasons of the year.

Comments from RIDEM:

Comment 5: BTEX limit

What is the basis for using 100 ug/L as a max. daily effluent limit for Total BTEX? Is it taken from a benchmark from a stormwater general permit? Or is it from an ELG and if so which one? Or from somewhere else?

Response to Comment 5:

The maximum daily effluent limitation for BTEX of 100 ug/L in the Draft Permit is a typographical error. The Fact Sheet states that “to better regulate the ‘potential’ for gasoline and/or light distillates to come in contact with storm water via product spills during fueling operations, EPA included a monitoring requirement for each BTEX compound (benzene, toluene, ethylbenzene, and total xylenes) in the draft permit as well as a monitoring requirement for total BTEX.” The effluent limitation of 100 ug/L, which was mistakenly included in the permit, is based on the typical removal efficiency for BTEX using commercially available technology, consistent with the Remediation General Permit (RGP). However, since this facility does not discharge water from ground water remediation activities, the maximum daily effluent limitation has been removed from the Final Permit and replaced with a monitoring requirement to report the maximum daily concentration of BTEX.

Comment 6: Monitor only

If you had water quality data for Naphthalene and BTEX parameters as a part of the permit application, why did you opt to implement "monitor only" for all those parameters except max. daily BTEX? Was it because no reasonable potential existed for these parameters? Or was "monitor only" specified for some other reason?

Response to Comment 6:

The data from one sampling event, submitted as part of the permit application on Form 2C, only supplied one data value for benzene, toluene, and naphthalene in the discharge from the facility. Therefore, EPA determined that more information was necessary to assess the levels of these parameters in the discharge. The requirement to monitor for

these parameters, along with total BTEX (see Response to Comment 5), will fulfill the need for more data in order to determine if there is a reasonable potential to establish an effluent limitation in the future.

Comments from CZM:

Comment 7: Installation of treatment equipment

On p.7 of the Fact Sheet it is mentioned that the owners planned to have a new centrifuge-type system for removing silt from the process water in place by April 2007. Do you know if that equipment has been installed?

Response to Comment 7:

The new treatment system was installed in the winter of 2007 and has been operational since April 2007.

Comment 8: Request for total nitrogen monitoring

I also noted that the permit (p. 2 of 12) requires PJ Keating to collect samples for Nitrate, Nitrite, TKN, and Ammonia. What is missing is Total N (TN). TN will be necessary to evaluate the TMDL for the Acushnet estuary. I know that TKN + Nitrate/Nitrite is often used as a proxy for TN when particulate N (i.e., that N that is bound up in the cells and bodies of aquatic plants and animals) is expected to be low, but there might be a significant amount of particulate nitrogen coming from the PJ Keating site if algae are growing in the various siltation "ponds". A look at Google Earth or other satellite mapping will show you that these ponds are very green. The estimated TN concentration in flows from this facility (estimated from TKN + nitrate/nitrite) is half to about equal (5-10 mg/l) that of Fairhaven's WWTP. Flows at PJ Keating can be as great as that of Fairhaven's WWTP (i.e., up to 2.6 MGD), so there is reason to be concerned about the TN contribution of this facility to the Acushnet estuary.

Response to Comment 8:

EPA agrees that a requirement to monitor for total nitrogen (TN) is appropriate in order to accurately determine the total amount of nitrogen, including particulate nitrogen, in the discharge from the facility. Therefore, a requirement to monitor for TN, at a frequency of 2/month, has been added to the final permit.

Comment 9: Limits and monitoring requirements

I am pleased to see that the TSS limit has been lowered, that the turbidity and WET testing is maintained, and that monitoring for naphthalene and BTEX have been included in this version of the permit. I am comfortable with the decision to removed sulfates monitoring.

Clearly this facility has had several violations over the last five years. I am glad that this new permit is going to require the applicant to do more extensive documentation of the pollutants in its stormwater.

Response to Comment 9:

The final permit retains the aspects, mentioned above, from the draft permit.